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SEP 3 - 1964

CURRENT SERIAL RECORDS

NEW VARIETIES - NO. 4

SUMMER 1962

OUTLINED HEREIN ARE DESCRIPTIONS
OF RECENTLY RELEASED VARIETIES OF
CERTAIN FIELD CROPS. THE PURPOSE
IS TO PROVIDE THE EXTENSION WORKER
WITH A LISTING OF DESCRIPTIVE
INFORMATION FOR USE UNTIL FULLER
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AND ARS-USDA

AP 145 (7-62)

RECENT RELEASES OF NEW VARIETIES - NO. 4

Wheat

Gaines (C.I. 13448) - A bearded common-type, white-chaffed soft white winter wheat, with short straw (2 to 3 feet usually in the Northwest), resistant to lodging and shattering, developed cooperatively by the United States Department of Agriculture and the Washington State University and released by experiment stations in Washington, Oregon, and Idaho. Its yield capacity is high. Gaines is resistant to most of the common races of bunt prevalent in the Pacific Northwest, and has considerable stripe rust resistance. It is susceptible to root and foot rots. In milling trials this variety ranked above Brevor, but below Omar, varieties it will most likely replace.

Idaed 59 - Developed by the Idaho Experiment Station, Idaed 59 is described as an early maturing, beardless, common white spring wheat with short, stiff straw. It is similar to Idaed but has high resistance to stem and stripe rust. It is adapted to northern Idaho and certain dryland areas in southern Idaho, and it is also grown quite extensively under irrigation in the Boise Valley. It yields about 10 percent less than Lemhi under irrigation but when so grown or with higher rainfall, to hold down the protein, Idaed's milling and baking qualities are excellent. Its short straw, sparse foliage and early maturity favor its use as a companion crop for legume seedings.

Justin (ND-102) is an awnleted hard red spring wheat developed and released by the North Dakota Agricultural Experiment Station and the United States Department of Agriculture. It features the combination of superior stem rust resistance and superior milling and baking qualities. Justin is superior to Selkirk in stem rust resistance and equal to it in yield and straw strength. Justin is similar to its Thatcher parent in "conventional" kernel shape and appearance, but the head type differs, being less tapering at the tip. Justin is resistant to "black chaff", or brown necrosis.

Lemhi 62 - A high yielding, beardless, common white spring wheat with good straw of medium height, developed by the Idaho Agricultural Experiment Station and the United States Department of Agriculture. In addition to the stem rust resistance of Lemhi, this variety has resistance to race 17. It is susceptible to leaf rust, stripe rust, and common smut. It is adapted to irrigated areas of southern Idaho and certain adjoining States. It has good milling characteristics and produces a very high quality pastry flour.

Sawtana is a hard red spring wheat recently released by the Montana Agricultural Experiment Station, developed in cooperation with USDA. With yield and quality advantages over Rescue and equal resistance to sawfly, Sawtana is expected to replace this variety in the sawfly infected area (dryland) of northern and eastern Montana - east of the Continental Divide. Sawtana is susceptible to 15B stem rust and does not yield as well as now standard varieties under sawfly-free conditions. The Experiment Station will maintain foundation seed.

Oats

Sumter (C.I. 7509) - A new early-maturing winter oat variety has been released by the South Carolina Agricultural Experiment Station. Its advantages include unusually stiff straw, disease resistance, ease of threshing, and suitability for both grain and forage production. It is adapted throughout South Carolina, including both Piedmont and Coastal Plain areas. Sumter has good resistance to smut, crown rust, Victoria blight, culm rot chlorosis, and tolerance to yellow-dwarf virus. It produces good yields and for its stiff straw, stands well after maturity. Sumter is a cross of Arlington and a strain derived from Mintok, Clinton and Santa Fe. It is somewhat earlier and shorter than Arlington, but equally productive for hay or silage. Ample certified seed should be available for plantings this fall.

Putnam 61 (C.I. 7531) - A yellow glumed spring oat which will grade white, developed by Purdue University Agricultural Experiment Station in cooperation with USDA and released by Purdue to certified seed growers in the spring of 1961. It is to replace Putnam and is recommended throughout Indiana. It is approximately a week earlier in maturity than any Indiana grown varieties except Putnam. It has a good combination of resistance to yellow dwarf and rusts; its yielding ability is generally superior to Putnam and compares favorably with the widely grown Clintland 60 and Newton; the strength of straw is usually superior. It is completely resistant to smuts in Indiana, resistant to races of stem rust common in the United States, and possesses the Landhafer resistance to crown rust. It has moderate resistance to aphid-borne, yellow dwarf virus disease.

Garland - A sister selection of Goodfield and Dodge, was released by the University of Wisconsin to growers of certified seed this spring and will be available for general farm production in 1963. Performance data indicate that Garland is intermediate to moderately high in yield. Heading and ripening dates are early to midseason. Straw height is intermediate to short. It resists lodging but not as well as Goodfield. Hull color is yellow, and the kernels are moderately short and high in test weight. Garland is generally resistant to smut and stem rust though some nonprevalent races will attack it. It is susceptible to yellow dwarf disease. It may be more susceptible to stem Septoria than Goodfield or Dodge.

Roanoke (C.I. 7413) - A high-yielding winter oat, developed through USDA-State research with Virginia and North Carolina. It is a stiff-strawed, high-yielding winter oat, resistant to many oat diseases prevalent in Southeastern States, including Victoria blight, soil-borne mosaic and many races of crown rust. Roanoke is tolerant to yellow dwarf disease but is equally susceptible as is Arlington to seed-borne smut and stem rust. It outyields Arlington in both grain and forage, and is expected to replace that variety. It is tall and vigorous. Because of its resistance to Victoria blight, it can be planted early for fall grazing. Certified seed will be available in the fall of 1962.

Oats (Cont'd)

Sierra is a high yielding rust resistant variety for California and perhaps other dry areas of the West. It is the first commercial oat bred directly from a wild strain, according to C. A. Suneson, ARS, who, in cooperation with California Experiment Station plant breeders, developed the variety. Sierra comes from a cross between a wild oat strain and a genetically incomplete hybrid. In California tests, it has outyielded by 20 percent of grain such varieties as Kanota, Ventura and California Red; with consistently equal hay yields. More resistant to shattering, it does not require windrowing during harvest. Sierra has not been tested outside of California but plant breeders believe it will prove widely adapted to dry areas of the West. Certified seed is available. Lists of producers can be obtained from Milton D. Miller, extension agronomist at the University of California, Davis, California.

Alamo-X, an oats variety obtained by radiation induced mutation from Alamo, was released this year by Texas Agricultural Experiment Station who in cooperation with USDA developed it. It is expected to replace Alamo in view of its greater resistance to *Helminthosporium* blights and certain races of crown rust, its greater tolerance to low temperatures and its good forage characteristics. Its grain yield record has been approximately the same as Alamo. Unfortunately, it is susceptible to race 294 of crown rust, a new race in Texas and to which Alamo is resistant. Both Alamo strains are resistant to presently prevalent races of stem rust.

Bonkee was developed cooperatively by the Iowa Experiment Station and USDA. It is early, short and produces plump seed that are white to pink in color, on moderately stiff straw. The panicle is semi-lax; the leaves are short and dark green in color. Bonkee ranges from moderately resistant to moderately susceptible to the prevalent races of crown rust. It carries the A and B genes for stem rust reaction that give it resistance to races 6, 7, 7A and 8 of this disease. Three years of testing in Iowa, two years of testing in the Spring Sown Red Oat Nursery and one year of testing in the Northcentral Regional Oat Nursery indicate that the performance of Bonkee is nearly identical with Cherokee and Bonham in all agronomic characteristics except for reaction to stem rust. In Iowa, it's felt that this strain should replace Bonham, Cherokee and Nemaha.

Nodaway, a spring oats variety, was recently released by the Missouri Experiment Station where it was developed in cooperation with USDA. It originated from an F₂ plant selection from Victoria x (Hajira x Banner) x (Victoria x Hajira) x Roxton x Macon. Nodaway is characterized by early maturity, stiff straw, excellent seed quality and resistance to smuts and stem rust. It shows moderate resistance to crown rust. Nodaway oats are slightly shorter than Macon and Mo. O-205; similar in maturity to Macon and earlier than Mo. O-205 or Clintland. They have a distinctive brace root system; stiff, upright broad spreading panicles; and broad short glumes that spread wide at maturity. The grain is short, plump and white. Area of adaptation includes Missouri, Iowa and other States in this latitude.

Oats (Cont'd)

Basin is a recent Montana Agricultural Experiment Station release. It is to replace Mission on the recommended list for dryland production. For the past six years Basin has consistently outyielded Mission in most of the dryland areas. A sister selection to Park, it carries the same uniform growth habit, giving a field of Basin an appealing appearance. It has short, very stiff straw, seldom exceeding 40 inches in height. It is resistant to most races of smut that are prevalent in Montana, as well as the most common races of stem rust. It is not resistant to either race 7 or 7A black stem rust and should not be grown under irrigation in eastern Montana. The kernels are short, white, and plump, and have a low hull percentage.

Barley

James (C.I. 10659), a selection from the cross of Wong x Bolivia, is being released by the Virginia Agricultural Experiment Station. The original cross was made at the North Carolina Agricultural Experiment Station. James has been slightly superior to Wong in yield tests conducted in Virginia during the period from 1956 to 1961. The major advantages of James over Wong are its resistance to leaf rust and moderate resistance to scald. James is similar to its Wong parent in its maturity, grain quality, and resistance to powdery mildew. It is an awnleted variety. James grows slightly taller than Wong, but is equal in resistance to lodging. This new variety will be recommended for the Coastal Plain and Piedmont sections of Virginia. It lacks the winter hardiness to survive satisfactorily some winters in areas west of the Blue Ridge. Certified seed will be available for planting in the fall of 1962.

Larker (B117) is a six-rowed, semismooth-awned barley with a colorless aleurone, developed by the North Dakota Agricultural Experiment Station. The grain yield is very similar to Traill and greater than Kindred, with a slight advantage over both in test weight. It is distinctly superior to both in percentage of plump kernels. Both date of heading and plant height are similar to Traill and Kindred, and Larker's straw strength is superior. It is similar in disease reaction, having resistance to stem rust, susceptibility to loose smut and the leaf blighting diseases, spot blotch, Septoria leaf blotch and net blotch. Generally satisfactory malting and brewing results have been obtained in small scale quality tests. Malt extract yields have been higher than in Traill or Kindred. Larker's classification as a malting variety will depend upon more extensive quality testing including tests on a carlot scale. There is a tendency for greater kernel discoloration which may be a disadvantage under some growing conditions. Comparisons for agronomic performance with non-malting varieties have been favorable.

Trophy (B116) is a six-rowed, rough-awned barley with colorless aleurone, developed by the North Dakota Agricultural Experiment Station. It is similar to Traill and Kindred in plant height, date of heading, and test weight, but has a greater percentage of plump kernels than either variety. Yield performance and straw strength have been superior to Kindred and nearly equal to Traill. Trophy is resistant to stem rust but susceptible to loose smut and Septoria leaf blotch. It appears to have some field resistance to prevalent races of net blotch. It offers promise as a malting barley, and compares favorably with presently grown non-malting barley varieties in agronomic performance.

Firlbeck III and Pirolina are two-rowed malting type, spring varieties introduced from Germany. Both appear in Western agronomic tests. Firlbeck has performed well in the Tululake-Klamath Falls area of California and Oregon, excelling Hannchen in yield and straw strength. Pirolina appears well adapted to the Camas Prairie and Palouse areas of Idaho and Washington.

Rice

Belle Patna is an early maturing, smooth hulled, long grain rice variety with processing and cooking characteristics similar to Rexora and Texas Patna. It was developed by the Texas Agricultural Experiment Station and the United States Department of Agriculture, in cooperation with the Texas Rice Improvement Association. In tests there Belle Patna matured approximately 18 days earlier than Century Patna 231, the earliest long grain variety grown in Texas, and some 30 and 60 days earlier than Bluebonnet 50 and Rexoro, respectively. It averaged about two inches shorter in height than Century Patna 231 but is considered a little more apt to lodge because its stems are small and willowy. Belle Patna is resistant to straighthead but moderately susceptible to blast under Texas and Louisiana conditions. Results in Cuba, Costa Rica and Colombia indicate it is more tolerant to hoja blanca than Bluebonnet 50 and Rexora. The Texas Crop Improvement Association can furnish sources of certified seed.

Gulfrose is an early maturing, smooth hulled, medium grain, hoja blanca resistant rice variety developed by the same cooperating group who produced Belle Patna. It has shown considerable resistance to blast but in 1958-59 tests, moderate susceptibility to straighthead. Gulfrose matures in Texas approximately six days earlier than Nato or Zenith or 11 days earlier than Century Patna. It is about the same height as Nato but not quite as sturdy. Because of its rapid germination and seedling growth it shades the ground quickly. Late or excessive nitrogen applications should be avoided because of sterility and lodging.

Northrose (C.I. 9407) (Lacrosse x Arkrose) is a new special-purpose rice released by the Arkansas Agricultural Experiment Station for conditions where an early maturing variety with high lodging resistance is needed. In Arkansas tests Northrose showed larger grain yields but slightly lower mill yields than Nato, and substantially less lodging. Disease reactions of both varieties have been essentially the same. Both are susceptible to rotten-neck blast and have shown some tolerance to straighthead but are not classed as resistant. Northrose has shown considerable resistance to hoja blanca though, to date, the disease has not been found in Arkansas. The milled kernels of Northrose have tended to be slightly chalkier than those of Nato. Observations indicate that Northrose may require more careful handling than Nato when combining and drying, and may give better mill yields when harvested at a relatively high moisture content (possibly 22 to 24%). This is the case with Arkrose, one of its parents.

Flax

Marine 62 (C.I. 1661) was released by the Minnesota Experiment Station. This variety is a bulk of high oil lines selected from Marine. In 128 trials in Minnesota and other North Central locations, its performance was quite similar to that of the parent variety. As an average Marine 62 exceeded Marine in yield by 0.3 bushels and oil content by 0.6 percent. The iodine value is about one point less for Marine 62 and it is slightly less tolerant to pasmo. Like Marine it is recommended for those situations where seeding is delayed until late May or June.

Windom (C.I. 1823) has been evaluated in Minnesota for the past 4 years. It was selected from the cross of [(Renew x Bison) x (Koto x Redwing)] [Redwood]. It has relatively high seed yield potential whether sown early or late. Immunity to rust is conditioned by the N' gene--the same as for Redwood; wilt resistance is excellent but pasmo tolerance is no better than that of Redwood. Oil percentage is comparatively low; however, oil quality is equal to that of Marine.

Grain Sorghums

Norkota (MS 323), Midak (MS 327) and Carman (MS 304) are open pollinated, early maturing, combine type grain sorghums, developed and released jointly by the ARS and the North Dakota Agricultural Experiment Station. These lines have slender Kafir-like stalks and produce 1 to 4 tillers when moisture is sufficient. The heads are small, have very good exertion and are semi-dense to slightly open. The seeds are medium to small in size. All tend to lodge slightly, but this defect has not been serious in yield trials to date. All mature earlier than Norghum, a South Dakota grain sorghum that is usually too late to mature in North Dakota.

Grain Sorghum Hybrids

KS 651)
KS 652) are two grain sorghum hybrids recently released jointly by the Kansas Agricultural Experiment Station and Crops Research Division, ARS-USDA. These are single-cross hybrids produced by use of cytoplasmic male sterility. Male sterile Combine Kafir-60 is the female parent of both hybrids. KS 2 is the pollinator parent of KS 651. KS 3 is the pollinator parent of KS 652. Both are resistant to milo disease and in limited observations appear to be as tolerant to chinch bugs as other Kansas recommended hybrids. Seed of the new hybrids will not be available for large scale commercial plantings until late 1962 or possibly 1963. They are expected to replace KS 603 and KS 602 as seed becomes available.

OK 612)
OK 613)
OK 632) are three new hybrids developed cooperatively by the Crops Research Division, ARS-USDA, and the Oklahoma Agricultural Experiment Station, providing a new type of sorghum grain containing yellow endosperm. The color is due to carotene, thus offering a source of grain that more closely approaches the feeding value of yellow corn. The new hybrids offer high yields, early maturity and good standability. In maturity, the three hybrids are rated from early to medium in the order listed, and in height from $3\frac{1}{2}$ to 4 feet. The male parent providing the pro-vitamin A characteristic was developed from a cross of Kaura and Redlan. Kaura is a tall growing yellow endosperm sorghum introduced from Nigeria, Africa, by the Crops Research Division, ARS-USDA.

Alfalfa

Uinta is a new disease-resistant alfalfa for the intermountain region of the western United States, developed and released by USDA and the Utah Agricultural Experiment Station. It is more resistant to yellow leaf blotch and downy mildew than Ranger. Like Ranger, Uinta is resistant to bacterial wilt but is susceptible to attack by the spotted alfalfa aphid. It is less hardy than Ranger and is adapted to areas having climatic and soil conditions similar to those in northern Utah. In four years of testing at Logan, Uinta produced 67 percent more seed per acre than Ranger. This high seed yield is attributed by Dr. A. W. Peterson, ARS, partly to Uinta's strong flower odor, which may attract more bees for pollination than the milder odors of other alfalfas. Also, Uinta has more seed pods and more seeds per pod than other varieties. Forage yields were equal to or higher than those of Ranger in tests conducted in Utah, Idaho, Wyoming, Montana and Oregon.

Crimson Clover

Frontier is an early maturing annual crimson clover developed by the USDA and the Mississippi Agricultural Experiment Station. Seed should be available next year. With more than half our crimson clover of reseeding varieties, there has been a disturbing rise in problems with self-seeded stands. Spring overgrazing, seed weevils, and inadequate fertilization are thought to be contributing causes. Frontier, which must be seeded each year, is expected to be valuable in the South and along the West Coast where these troubles have occurred with reseeding varieties. Developed from an Italian variety, it offers early maturity, large seed which helps give it greater seedling vigor, faster fall and winter growth, and generally higher forage and seed yields than varieties now in use. In Mississippi tests, Frontier matured three weeks earlier than reseeding varieties. It averaged 4,317 pounds of forage per acre compared with 4,113 for Dixie; its seed size averaged 114,500 seed per pound compared to 152,500 for Dixie and 171,600 for Chief.

Sweetclover

Denta is a new non-bitter, leafy, white variety developed by the USDA and the Wisconsin Agricultural Experiment Station. Is the first non-bitter sweetclover developed in the United States. Denta contains only one-twentieth the coumarin found in other sweetclovers. This is the compound responsible for the bitter taste in sweetclover and which decomposes into dicumarol in improperly cured sweetclover hay or poor silage. When eaten by livestock, dicumarol causes an often fatal condition called sweetclover poisoning or bleeding disease. Denta is suitable for the northern Great Plains and the Western Cornbelt. It has some resistance to blackstem and gooseneck, two of the most serious fungus diseases of sweetclover. It flowers about three or four weeks later than other white sweetclovers and recovers well after clipping.

Bahiagrass

Tifhi-2 (Hybrid 18 x 108) is very similar to Tifhi-1. It was developed co-operatively by the U. S. Department of Agriculture and the Coastal Plain Experiment Station at Tifton, Georgia, and released by the experiment station. Plot data indicate, according to Dr. Glenn W. Burton, Tifhi-2 should be a little more productive and more disease resistant than Tifhi-1. Seed should be more plentiful and cheaper in time because 18 is a better parent than the line it replaces.

Intermediate Wheatgrass

Oahe (pronounced Oh-wah-hee) was bred and released by the South Dakota Agricultural Experiment Station. It is characterized by its high yield of large seed that produces a vigorous seedling, facilitating stand establishment. Forage yields have been favorable in trials located in North Dakota and Idaho as well as South Dakota. To insure preservation of the desirable qualities of this variety the South Dakota Foundation Seed Stock Division is producing Foundation Seed under a limited generation increase program.

Brome Grass

Sac is a disease-resistant smooth brome variety developed for the North-Central States by USDA and the Wisconsin Agricultural Experiment Station. In 10 years of trials in Wisconsin, it has shown consistent superiority in foliage diseases resistance and improved tolerance of soil-borne organisms. Good vigor and very good seed-producing ability are other desirable qualities. Forage yields were about the same as for the common commercial varieties. Sac's growth habit and foliage are similar to those of Achenbach and Lincoln; the plants spread quickly with moderately coarse leaves and stems. The seed is heavy, like the seed of other northern bromes. Because of its improved disease resistance, Sac is expected to prolong the grass stand and thus improve alfalfa-brome mixtures for pasture. Sac seed production has been started, in cooperation with the Oregon and Washington State seed certification agencies. Extensive production of seed in Wisconsin is not planned. Seed will probably not be available in quantity until 1965 or 1966.

Addendum
to
New Varieties--1962

Barley

Dutchess is a barbed-awned winter barley developed by the Cornell University Agricultural Experiment Station. It was tested in cooperation with other stations and USDA. Certified seed will be available this fall. It has appeared quite similar to Hudson in yield, resistance to scald, moderate susceptibility to the smuts and in winter resistance. Both are susceptible to local races of leaf rust. Dutchess offers advantages in straw strength and height. Its average lodging was 14.6 percent compared with 19.6 percent in Hudson. Both these varieties excelled Wong substantially in yield and lodging resistance.

Oats

Florad is a very early oat variety released recently by the Florida Experiment Station where it was developed in cooperation with USDA. It is adapted to Florida and the extremely southern portions of Georgia and Alabama. Florad's resistance to crown rust and many other common diseases there is said to be the best of commercially available varieties. It is, however, highly susceptible to soil-borne mosaic virus and is more subject to cold damage than Floriland.

Florad's early vigorous growth produces excellent fall grazing and large yields of green matter to be turned under preceding shade tobacco. For grain crops, late November and December is the suggested planting time to minimize danger of late spring freezes.

